

Before You Begin

1. Install all drivers and tape in accordance with national and local electrical codes and building standards.
2. In all cases, GM Lighting recommends that you hire or consult with a licensed and qualified electrician or electrical contractor.
3. Do not modify this product. Modifying or mounting this product outside of the directions in this installation guide will void the warranty and may result in injury.
4. Please adhere to Dry, Damp or Wet location use restrictions. Wet location does not mean you can 'submerge in water'. Do not install these products within 5 feet of swimming pool or spa.
5. Only install with GM Lighting LineDRIVE DC LED Drivers. Using other drivers voids 5-year warranty.
6. Some wattage profiles require installation into GM Lighting LED mounting channels for proper heat control.
7. To avoid voltage drop, ensure that wire gauge used is sufficient to keep under 3% voltage drop. See Voltage Drop Chart on Page 7.
8. Do not exceed maximum run listed for each tape type, and for power supply (per circuit on dual circuit models).
9. Cut at designated cut points only (Fig. 1). Cutting anywhere else will result in damage to the LED tape and will void warranty.
10. Do not solder. Use GM Lighting approved SureTite™ or EZ connectors.
11. Proper installation will insure many years of successful usage. Failure to follow safety warnings and instructions will void warranty.

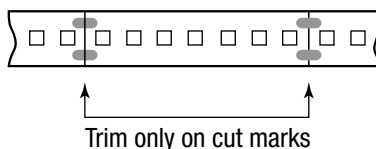


Only GM's LineDRIVE power supplies offer a 5-year product warranty for both the driver and tape when used together!



Do not exceed 80% load per circuit on any power supply.

FIG. 1



**SEE WIRING DIAGRAMS
PAGE 8 and 9**

WARNING!

DO NOT CONNECT DIRECTLY TO 120V CURRENT!
PLEASE READ PREVIOUS PAGE AND FAMILIARIZE YOURSELF WITH ALL INSTRUCTIONS BEFORE INSTALLING

Dry Location

Dry location is a designation that usually means 'in-door'. LTR Series dry location tape is presented in a copper bus that is not encapsulated with a silicone sheath. To insure proper operation, install only in locations that are not exposed to moisture, steam, inclement weather or leaks of any type. **For Wet Location, go to page 5.**

Turn Power Off at Circuit Breaker Before Installing

Prior to installation, verify that all components (LED tape, connectors, mounting clips, channels and power supplies) are compatible. **Verify that power is off before proceeding.**

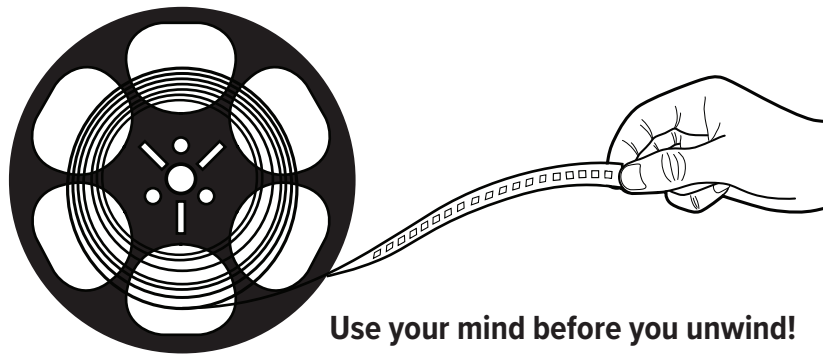
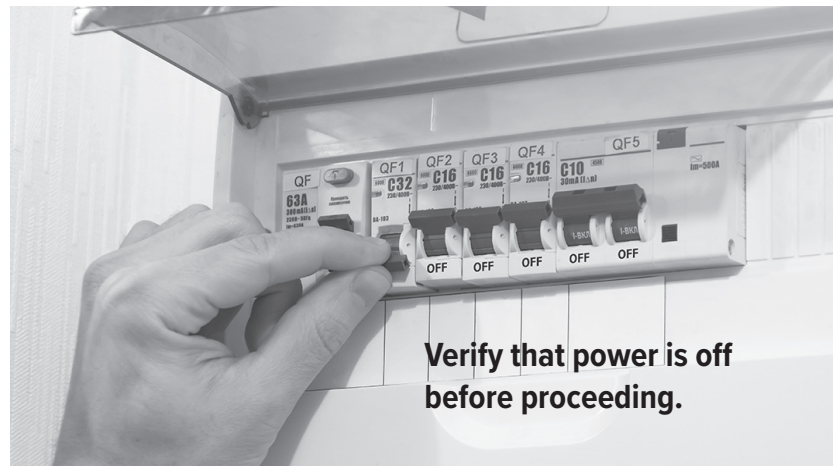
Determine Location and Prepare Mounting Surface

Locate area where LineDRIVE power supply is to be mounted. Make sure area is clean and free of dust and any debris that may hamper installation or get in the way of wiring. Please make sure that the wire gauge that you select has voltage drop, amperage rating and type (in-wall, dry or wet location, etc.) factored in

Layout and Pre-Configure Components Before You Begin Installation

Locate area where LineDRIVE power supply is to be mounted. Make sure that this space is free of obstructions and can be easily reached for mounting or maintenance.

LEDTask™ Flexible LED Tape LTR-E, LTR-P and LTR-S Series Dry Location LED Tape



Use your mind before you unwind!
Please follow all applicable NEC and local wiring codes.

Follow maximum length tolerances when using tape.
Max. Length = maximum run length from one power feed.

Cutting Tape

LED tape is unique in the fact that it is the only lighting 'fixture' that you can cut to length with only a pair of scissors. We made it easy for you to do that! Find the cut mark closest to your desired length and cut cleanly, across the marks. **Fig. 1**

Peel back adhesive 1/2" to expose back of tape. You are now ready for attaching a connector **Fig. 2**. If you're at the end of your run, you're done.

Attaching Connector

Using Sure-Tite Connector (ST or EST Series)
Loosen screws at end of connector. Slide tape in firmly, pushing it all the way until it stops. Make sure that tape is seated firmly, creating a tight bond with the connector. Snug-tight screws, **do not overtighten**. **Fig. 3**.

Attaching Power to Tape Connector

Use same procedure for connecting Sure-Tite connector. The other end of connector is wired into your LineDRIVE power supply. Please consult power supply instructions for a step by step for this easy procedure. **Make sure that you are connected to the same polarity**.

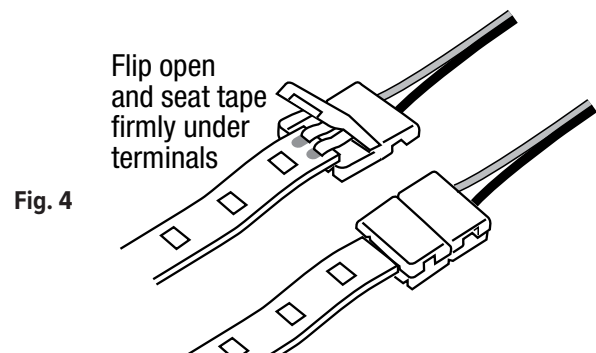
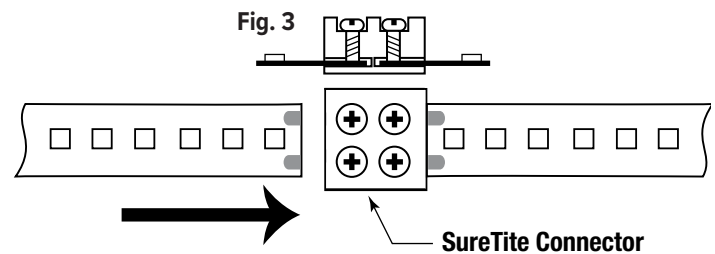
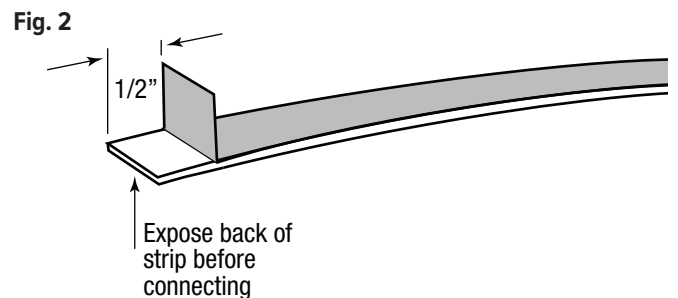
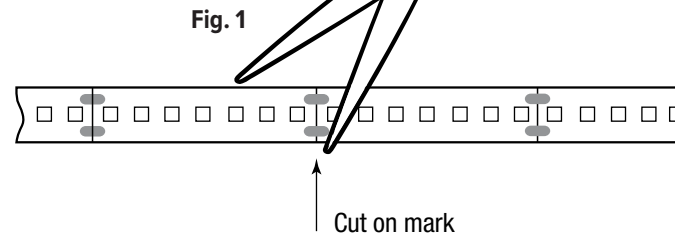
Warning

Make sure that tape is pressed firmly into connector, insuring that tape contacts are firmly seated into connector. Improper or loose seating can cause tape to short out or not perform properly.

Test tape installation by powering up before permanently mounting. If tape does not perform satisfactorily, check our FAQ / Troubleshooting tips on page 7.

LEDTask™ Flexible LED Tape LTR-E, LTR-P and LTR-S Series Dry Location LED Tape

Cut marks are spaced at different lengths depending on the type of tape. All cut marks are clearly marked on tape.



Mounting Tape

As described, tape can be mounted either by adhesive tape backing, or by channel. In some cases, we require channel mounting for proper heat dissipation. **Dust will hamper adhesion. Wear protection, do not breathe in fumes. Clean all surfaces thoroughly.** *Fig. 1.* The following strips require mounting in channel.

- LTR-P 4.5W Series - 16' max.**
- LTR-P 5.8W Series - 16'-4" max.**
- LTR-S 5.8W Series - 16'-4" max.**

Peel back adhesive 1/2" to expose back of tape. You are now ready for attaching a connector *Fig. 2.* If you're at the end of your run, you're done.

Using Mounting Channels

We offer a complete line of architectural quality aluminum extruded mounting channels and lenses in both 4' and 6' lengths. In measuring out a channel for your installation, take note that not all channels accept connectors within them. Best to make your connections outside of the channel. **Cut channels with the lens fitting down to avoid shattering.**

Cut channel using a metal blade in a circular saw or with a hacksaw. Make sure you observe all proper safety precautions and wear protective goggles. If using a hacksaw, insure that channel is tightly clamped to work bench. *Fig. 3.*

Mount channels using counter sunk screws. Sink screw every 12" along length of channel. *Fig. 4.*

Lay tape in using adhesive backing to adhere tape to channel. Press firmly along length of tape. Do not apply a roller to tape as this may damage diodes. *Fig. 5.*

Snap lens into channel, working from one end to the other. Lens will seat into channel with an audible snapping sound.

LEDTask™ Flexible LED Tape LTR-E, LTR-P and LTR-S Series Dry Location LED Tape

Fig. 1

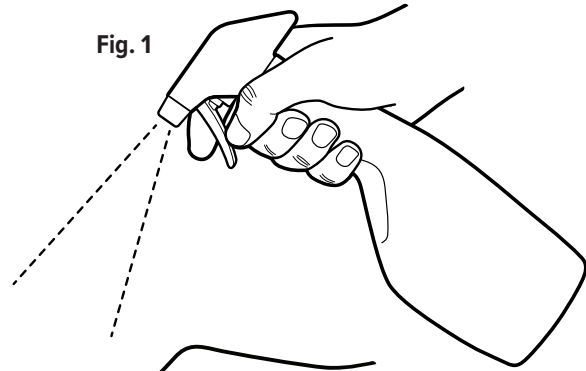


Fig. 2

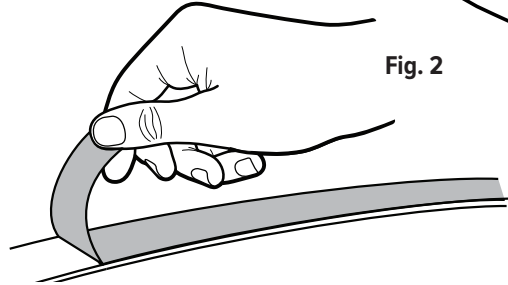


Fig. 3

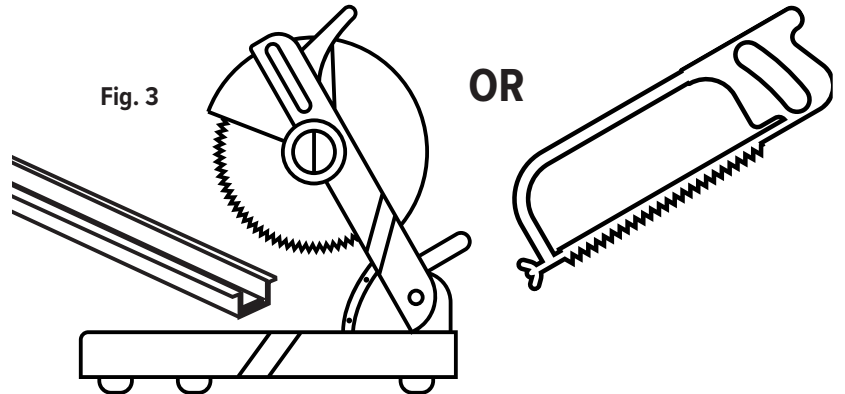


Fig. 4

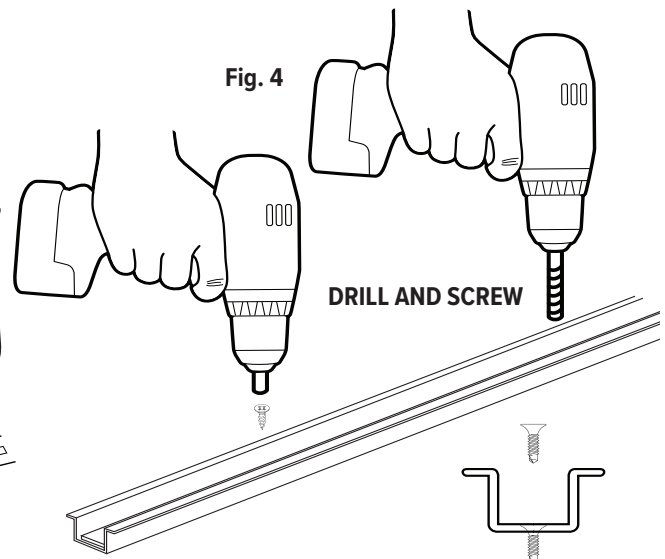
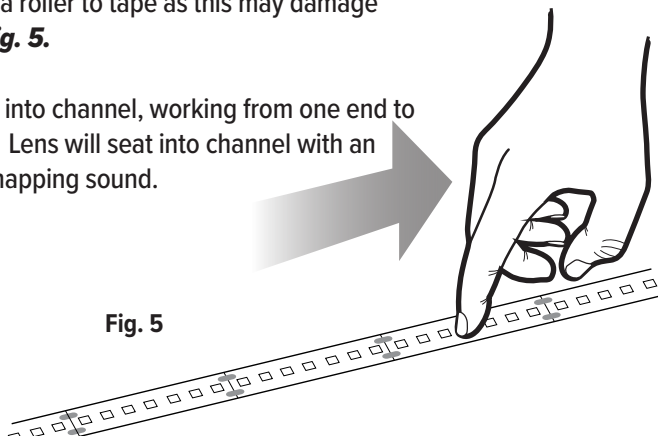


Fig. 5



WARNING!

**DO NOT CONNECT DIRECTLY TO 120V CURRENT!
DO NOT SUBMERGE DIRECTLY INTO WATER.
WET LOCATION TAPE IS CUT AND CAP ONLY.**

LEDTask™ Flexible LED Tape LTR-P WP Series Wet Location LED Tape

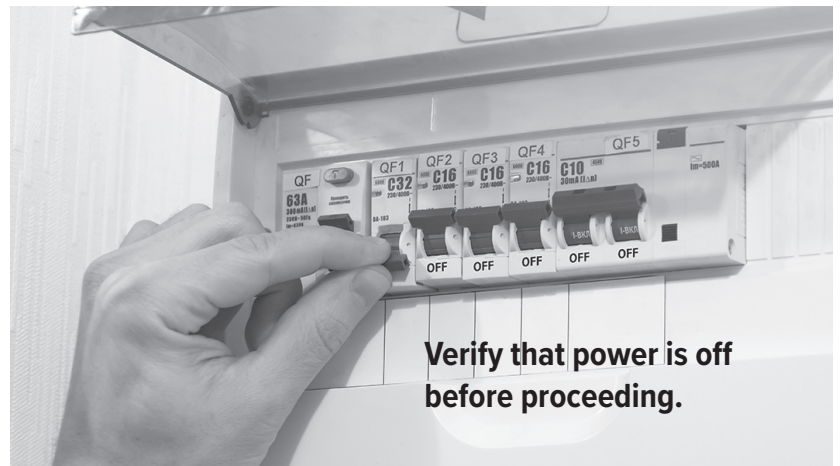


Wet Location

Wet location is a designation that usually means 'outdoor rated'. LTR-WP Series wet location tape is protected by a silicone sheath that protects the tape within from moisture and inclement weather. To insure proper operation, install only in locations that are at least 5 feet away from swimming pools and spas.

Turn Power Off at Circuit Breaker Before Installing

Prior to installation, verify that all components (LED tape, connectors, mounting clips, channels and power supplies) are compatible.

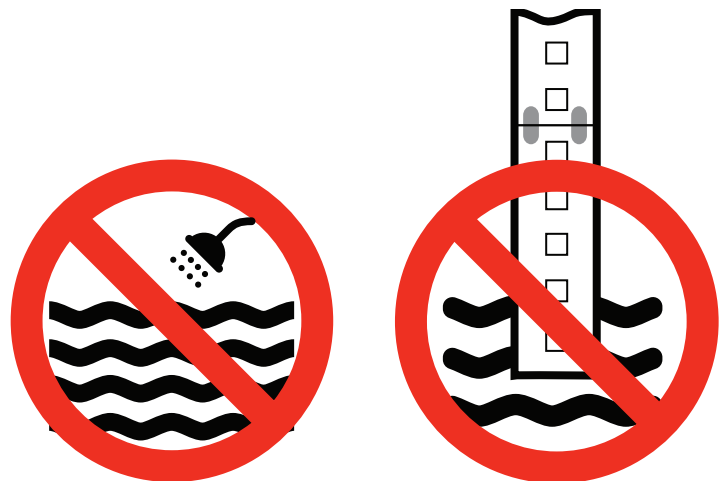


Determine Location and Prepare Mounting Surface

Locate area where LineDRIVE power supply is to be mounted. Make sure area is clean and free of dust and any debris that may hamper installation or get in the way of wiring. Please make sure that the wire gauge that you select has voltage drop, amperage rating and type (in-wall, dry or wet location, etc.) is factored in.

Un-Boxing and Organizing Pre-Configured Products

Your LTR-WP Series Wet Location Tape Application has been pre-configured, cut and packaged for you. Open box and remove contents carefully. Lay tape out over application area and insure that all measurements are accurate. If not, return in original packaging.



DO NOT INSTALL IN SHOWER, SPA OR POOL

DO NOT IMMERSE LED STRIP IN WATER

Test Before Permanently Mounting

After confirming that your LTR-P-WP pre-configured order is accurate, lay everything out and connect per these instructions. **Fig. 1.**

Test tape installation by powering up before permanently mounting. If tape does perform satisfactorily, check our FAQ / Troubleshooting tips on page 7.

Mounting With 3M Adhesive Tape

Your LTR-P-WP configured layout came with enough 3M double stick tape to adhere your complete

configured application to the surface. Peel back paper covering to expose adhesive and then carefully press ribbon into place. **Fig. 2.**

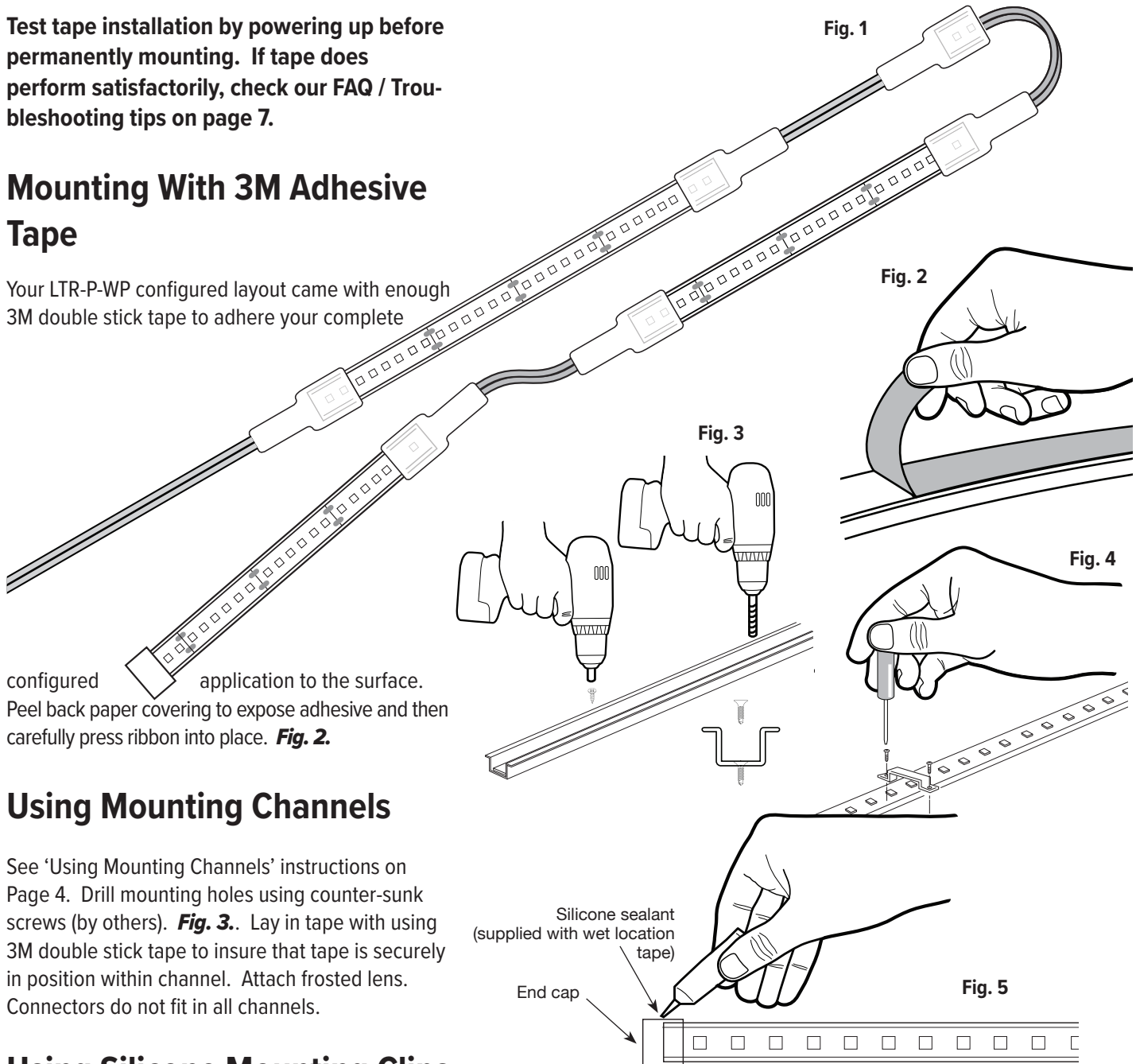
Using Mounting Channels

See 'Using Mounting Channels' instructions on Page 4. Drill mounting holes using counter-sunk screws (by others). **Fig. 3.** Lay in tape with using 3M double stick tape to insure that tape is securely in position within channel. Attach frosted lens. Connectors do not fit in all channels.

Using Silicone Mounting Clips

Using the supplied tube of silicone gel, squeeze gel into end cap and push onto end of run, capping off the final length of tape. **Fig. 4.**

LEDTask™ Flexible LED Tape LTR-P WP Series Wet Location LED Tape



Terminating Run with End Cap

Using the supplied tube of silicone gel, squeeze gel into end cap and push onto end of run, capping off the final length of tape. **Fig. 5.**

Frequently Asked Questions (FAQ) and Voltage Drop Charts

Problem	Typical Cause and Action
LED Tape does not turn on - no lights	<ul style="list-style-type: none"> • Circuit breaker at electrical box is OFF or has tripped • Incorrect wiring, or polarity (+ / -) are reversed. Check every connection and insure that tape is firmly seated in connectors. • You're using the wrong power supply, or power supply is not functioning properly. Make sure that you are using the correct 12V or 24V power supply.
LED Tape overheats	<ul style="list-style-type: none"> • Heat is not being properly mitigated by channel mounting. Certain tape wattages require a mounting channel. • Incorrect voltage pairing of LED power supply and tape. If you are powering a 12V tape with a 24V power supply, this can cause overheating and lead to failure of product. • Installation where ambient temperature is too high. Proper thermal management is crucial to the successful operation of your LED tape application. We recommend the following tolerances: -4° - 122°F (-20° - 50°C)
Fixture randomly flickers and may shut off unexpectedly.	<ul style="list-style-type: none"> • Connectors are not securely connected. Insure that tape is firmly seated and in contact with metal contacts within connector. • Use of soldered connections may cause flickering and will void warranty. If you have soldered leads - re-trim tape at cut marks and use proper connectors. • Incorrect power supply type used - make sure that the choice of magnetic or electronic is correct for your tape.
Brightness shifting	<ul style="list-style-type: none"> • Power supply is over-loaded and is overheating. An over-loaded power supply will trip the internal auto-reset repeatedly, turning the system on and off.
If all else fails	<ul style="list-style-type: none"> • We're here for you! Call our technical service reps at (866) 671-0811 or write to: tech@gmlighting.net

12V Wire Voltage Drop

Wire Gauge	10W - .83A	20W - 1.7A	30W - 2.5A	40W - 3.3A	50W - 2.1A	60W - 4.2A
20 AWG	18 ft.	9 ft.	6 ft.	5 ft.	4 ft.	3 ft.
18 AWG	34 ft.	17 ft.	11 ft.	8 ft.	6 ft.	5 ft.
16 AWG	54 ft.	27 ft.	18 ft.	13 ft.	10 ft.	9 ft.
14 AWG	86 ft.	43 ft.	29 ft.	21 ft.	17 ft.	14 ft.
12 AWG	134 ft.	68 ft.	45 ft.	34 ft.	27 ft.	22 ft.
10 AWG	199 ft.	99 ft.	66 ft.	49 ft.	39 ft.	33 ft.

Guide to Voltage Drop

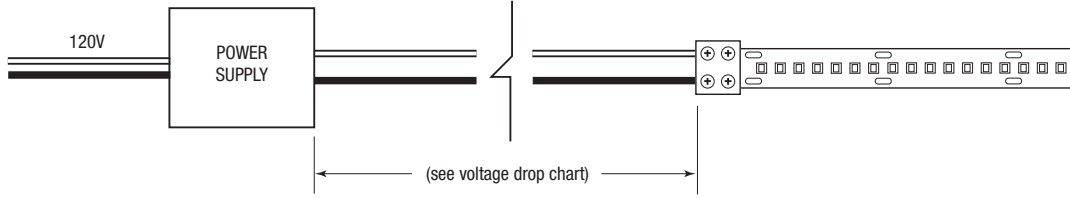
- Determine load size. If load is 35W - round up to next load at chart at left, i.e. 40W.
- Determine distance from power supply to load. It is assumed that the distance is no longer than 20 feet.
- We recommend using a heavier gauge wire. This is the 'safest choice' and usually eliminates excess voltage drop.

24V Wire Voltage Drop

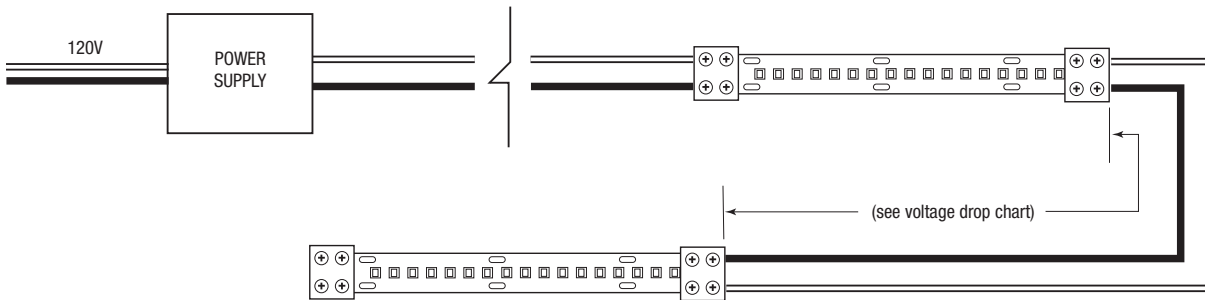
Wire Gauge	10W - .83A	20W - 1.7A	30W - 2.5A	40W - 3.3A	50W - 2.1A	60W - 4.2A	70W - 2.9A	80W - 3.3A	90W - 3.75A	100W - 4.2A
20 AWG	85 ft.	43 ft.	27 ft.	21 ft.	17 ft.	14 ft.	12 ft.	11 ft.	9 ft.	8 ft.
18 AWG	134 ft.	68 ft.	45 ft.	33 ft.	27 ft.	22 ft.	19 ft.	17 ft.	15 ft.	14 ft.
16 AWG	215 ft.	109 ft.	72 ft.	54 ft.	43 ft.	36 ft.	31 ft.	27 ft.	24 ft.	22 ft.
14 AWG	345 ft.	174 ft.	115 ft.	86 ft.	69 ft.	57 ft.	49 ft.	43 ft.	39 ft.	36 ft.
12 AWG	539 ft.	272 ft.	181 ft.	135 ft.	108 ft.	90 ft.	77 ft.	68 ft.	61 ft.	56 ft.
10 AWG	784 ft.	397 ft.	263 ft.	197 ft.	158 ft.	131 ft.	112 ft.	98 ft.	97 ft.	82 ft.

Typical Application Set-Up and Wiring Diagrams

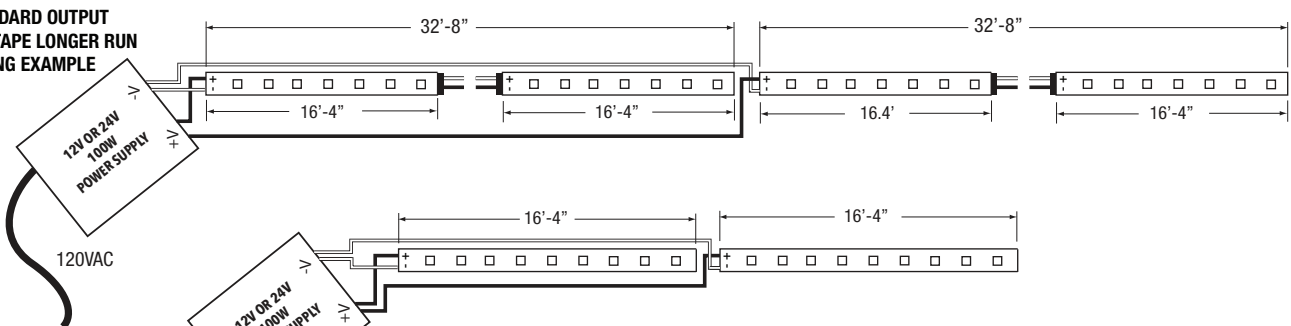
EXAMPLE: Single Run



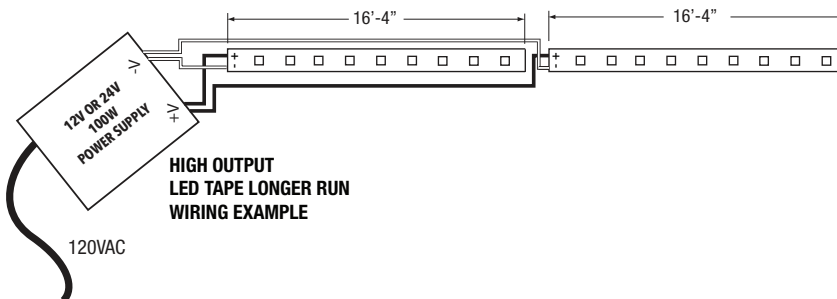
EXAMPLE: Multi Run



STANDARD OUTPUT
LED TAPE LONGER RUN
WIRING EXAMPLE

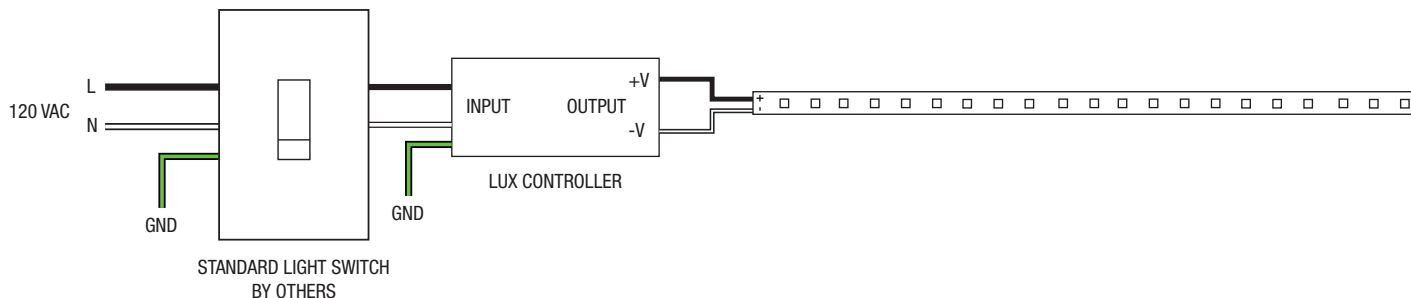


HIGH OUTPUT
LED TAPE LONGER RUN
WIRING EXAMPLE

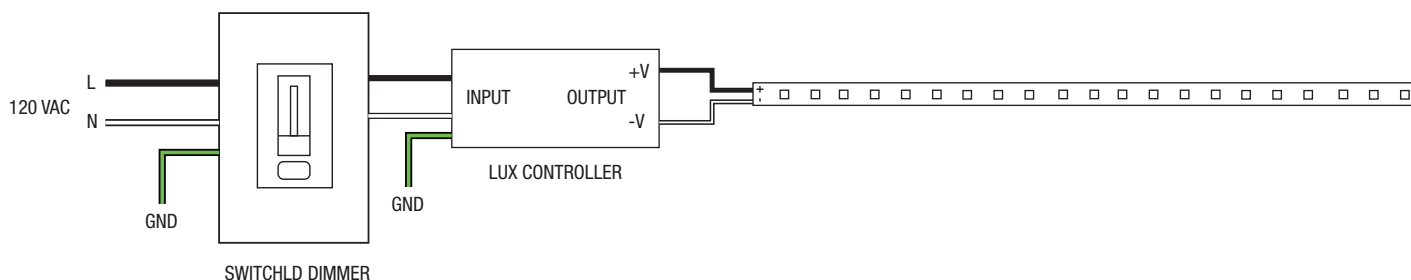


Typical Application Set-Up and Wiring Diagrams

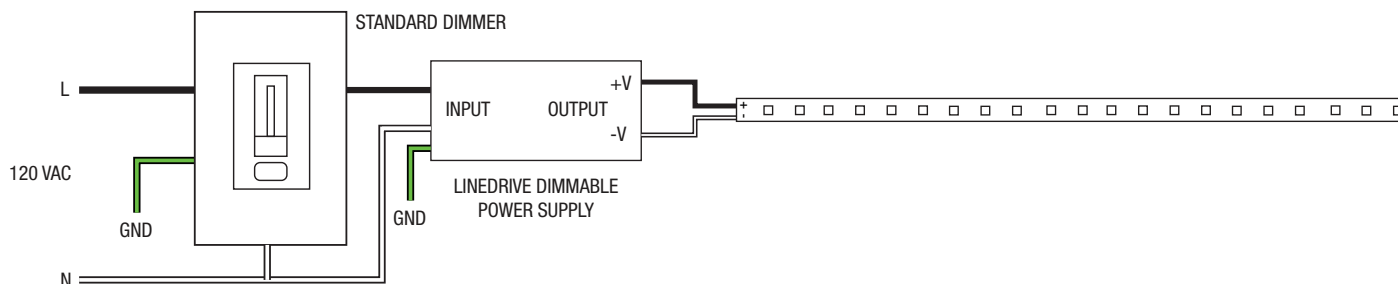
USING LUX APPLICATION WITH TAPE CONTROLLER



USING SWITCHLD DIMMER / DRIVER SYSTEM



USING STANDARD DIMMER WITH LINEDRIVE™ ELECTRONIC DIMMABLE POWER SUPPLY



GM Lighting



18700 Ridgeland Ave., Tinley Park, IL 60477
Toll-Free: (866) 671-0811 • FAX: (708) 478-2640

www.gmlighting.net

e-mail: sales@gmlighting.net
tech@gmlighting.net

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